

Review of the IMF/FCDO Collaboration on Macroeconomic Research in Low-Income Countries

Shantayanan Devarajan and Stephen A. O’Connell

January 12, 2026

CONTENTS

1. Introduction	1
2. Context: The IMF and low-income countries	2
a. Definition and membership of the LIC group	3
b. LICs and the Fund’s mission	3
c. Use of Fund resources by LICs.	4
3. Alignment of priorities, structures and processes	7
4. Research Outputs	9
a. The IMF in the Macro/LIC research ecosystem	9
b. Research outputs	12
c. Citations and social media attention	14
d. FCDO funding and research value for money	14
e. Quantifying MRLIC impacts: IMF Working Papers	15
f. Capacity building	17
5. How MRLIC research affected IMF policies and practices	17
a. Working papers	18
b. Participation of MRLIC researchers in country teams and missions	19
c. MRLIC contractuals, visiting scholars, and IMF staff	21
d. Capacity building	21
6. How specific MRLIC projects affected IMF policy and country policies	22
a. Monetary policy frameworks	22
b. Fiscal policy: Debt-investment-growth (DIG) models	24
c. Diversification, inequality, gender, and climate change	28
7. Going forward	29
Acknowledgements	33
References	34
Appendix	37

1. Introduction

In 2012, the United Kingdom's Department for International Development (DFID) embarked on [a strategic partnership](#) with the International Monetary Fund (IMF) to strengthen research on critical macroeconomic issues affecting low-income countries (LICs). The goal of the Macroeconomic Research in Low Income Countries (MRLIC) project was to improve macroeconomic policies in order to increase the pace of economic growth, job creation and poverty reduction in LICs. This report is the first comprehensive external review of the project, covering the period from its inception in 2012 to the end of calendar 2024. The purpose of the review is to assess the overall effectiveness and impact of the project and to extract lessons that can inform future macroeconomic research programming by the Foreign, Commonwealth and Development Office (FCDO) and the IMF.¹

The MRLIC project was formulated and launched against a background of rising development assistance from the UK ([FCDO 2025, Figure 1](#)). After falling from roughly 0.4 percent to 0.25 percent as a share of gross national income (GNI) between 1970 and 1999, British aid followed a sharply increasing trend during the 2000s, reaching nearly 0.6 percent of GNI when the project was launched in 2012. The UK's overall aid-to-GNI ratio reached the OECD target of 0.7 percent in 2013, and, following its adoption as a national target by Parliament in 2015, remained at that level until 2021. During the COVID pandemic, Parliament scaled back overall aid funding to 0.5 percent of GNI, an adjustment that accompanied a reduction in the MRLIC's annual funding during its final 3-year phase. Current plans are for aid to decline further to 0.3 percent of GNI in 2027.

As outlined in the [Terms of Reference](#) for this review, we will assess the project's accomplishments along five dimensions.

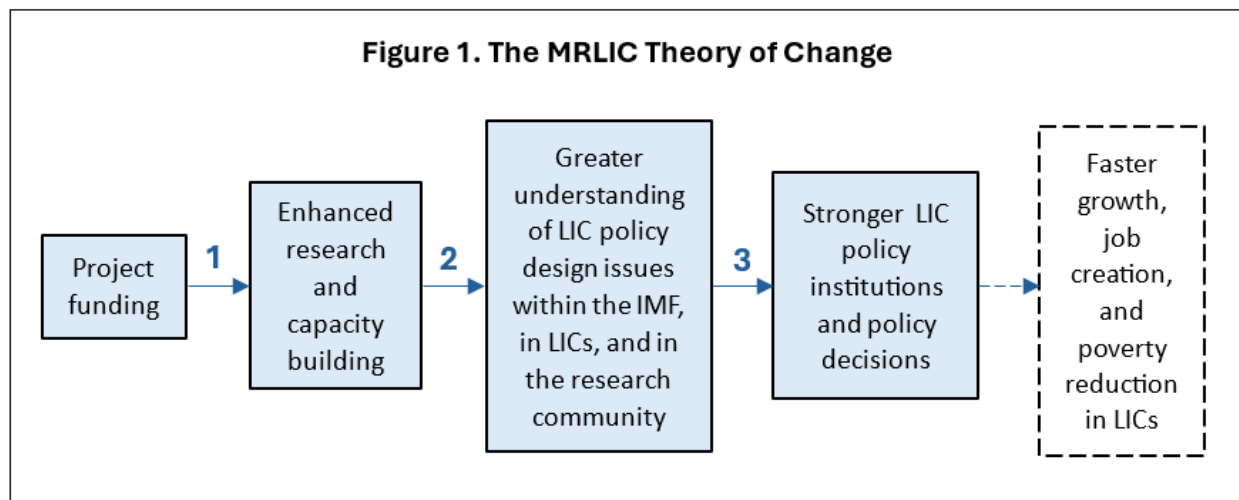
1. **Strategic directions.** Was the project's research agenda well aligned with LIC needs and priorities, and with the IMF's strategic priorities, as these evolved over the course of the project?
2. **Structure and processes.** Given the IMF's internal structure and processes, were the structure and management processes of the MRLIC project, along with its governance and oversight both within the IMF and from the FCDO, effective in supporting the accomplishment of the project's goals?
3. **Output quality.** Have the project's research outputs (papers, toolkits, and datasets) been of the intended quality level and directly relevant to IMF policy advising and policymaking in LICs?
4. **Outcomes and impacts.** To what extent have the project's intended outcomes been achieved and led to broader impacts on IMF policy and operations regarding LICs, on the profile of LIC issues among IMF senior management, on macroeconomic policymaking in LICs, and on the relevant academic knowledge and discourse?

¹ DFID was merged with the U.K.'s Foreign and Commonwealth Office to become the Foreign, Commonwealth and Development Office (FCDO) in 2020.

5. **Sustainability.** How durable are the project’s accomplishments in terms of research, policy attention and capacity relevant to LICs, both within the IMF and in external partnerships developed by the project, and how likely is it that the project can continue to exert influence on policy and practice in these domains?

Behind each of these questions is a theory of change that runs from project funding to enhanced research on and capacity building in LICs; from these activities to improved IMF policy engagement; and from the combination of IMF policy engagement, dissemination of research and enhanced capacity to stronger policies and policy institutions in LICs. [Figure 1](#) illustrates this theory of change and highlights the elements that are the focus of this review. As indicated in the figure, an end-to-end assessment of the project’s impact on growth, job creation and poverty reduction in low-income countries lies outside the scope of our review.

Our work was informed by a sequence of [comprehensive annual reports](#) that have documented the project’s research and training outputs and generated consistent DFID/FCDO ratings of A or above (A+ and A++) along what amounts to the first link in Figure 1. We build on these evaluations while also exploring the downstream links from research and capacity-building to the IMF’s policy engagement with LICs and the policy process within LICs themselves. Our methodology is a combination of statistical analysis of the project’s outputs and interviews with researchers, present and former senior IMF and FCDO officials, and policymakers in low-income countries.



2. Context: The IMF and low-income countries

Summary: While low-income countries represent about 40 percent of the IMF’s membership, their small size means they do not represent systemic risk to the global economy. Nevertheless, given that they borrow from the Fund, these countries’ growth and poverty reduction are central to the Fund’s mandate. There

can be a tension between this LIC agenda and that of large, emerging market or advanced economies, which the MRLIC project was intended to ease.

a. Definition and membership of the LIC group

The IMF's [low-income category](#) refers to PRGT-eligible countries, defined as countries that are eligible to borrow from the Fund on concessional terms.² In practice, the composition of the LIC group is nearly identical to that of IDA eligibility at the World Bank, and, as such, extends well beyond the low-income countries as determined by the World Bank's income-based classification. Countries identified as middle income by the World Bank comprised a majority of the LIC group in 2024. By regional location, the PRGT-eligible group is roughly balanced between Sub-Saharan Africa (SSA) and elsewhere, with 53 percent located in SSA in 2012 and a substantial representation of small island states.³ The composition of the group has shifted towards Sub-Saharan Africa and towards fragile and conflict affected states (FCS) over time, with its overall size declining slowly as graduations exceed new entries or re-entries. The balance of these developments reduced the group from 72 countries in 2012 to 70 in 2024.⁴

b. LICs and the Fund's mission

In its operations in emerging-market and advanced countries, the Fund's role as an international lender of last resort comprises the distinct objectives of limiting the country-level costs of financial distress and containing the systemic risks such distress can pose to regional or global economies. Virtually by definition, most LICs are too small economically to pose global systemic risks. They are also sufficiently distant from international financial markets that their balance of payments vulnerability tends to be chronic rather than episodic, reflecting the structural characteristics and development challenges of poor and undiversified economies. For these reasons, the IMF's mission in LICs incorporates a development dimension that is largely absent in its engagement with emerging-market and advanced economies. This dimension goes beyond support for macroeconomic stability and external adjustment to include the promotion of policies conducive to economic diversification, inclusive growth and poverty reduction ([Boughton, 2009](#), Section 3; [IMF 2024](#)).

² PRGT eligibility refers to the Poverty Reduction and Growth Trust, which comprises the Fund's concessional lending facilities. Countries acquire PRGT-eligibility if their incomes fall below the IDA operational cutoff that is used in determining access to concessional World Bank resources or below twice that cutoff if their population is less than 1 million; or if they lack access to global financial markets. Countries graduate from PRGT eligibility only if they exceed these criteria on a persistent basis and are also judged to be free from serious short-term vulnerabilities ([IMF 2012](#)).

³ In the Fund's flagship [World Economic Outlook](#) series, the *low-income developing countries* or 'LIDC' category, introduced in 2014, refers to PRGT eligible countries but imposes an income cutoff that eliminates a number of PRGT-eligible small developing states. By definition, therefore, the sizes of the various low-income groups differ, with PRGT eligible > LIDC > World Bank low income. In 2012, the relevant group sizes were 72 > 60 > 35 (total IMF membership 188). In 2024, they were 70 > 58 > 26 (total IMF membership 191).

⁴ Armenia, Bolivia, Georgia, Guyana, Nigeria and Vietnam graduated, while Marshall Islands, Federated States of Micronesia, Syrian Arab Republic and Tuvalu became PRGT-eligible.

Over the years, the IMF has developed concessional lending facilities that support LICs in managing protracted balance of payments vulnerabilities, including responding to commodity price shocks, reforming sectoral and trade policies to foster economic transformation, and, starting in 1999, achieving poverty reduction along with growth. Between 1996 and 2005, the Fund participated in the cancellation of a substantial portion of the multilateral debts of the LICs.⁵ The evolution of LIC-oriented arrangements has continued during the 2000s, with new lending facilities introduced to respond to natural disasters and foster environmental resilience. The Fund’s technical assistance and capacity development resources are also particularly suited to assisting LICs in strengthening their institutional infrastructures in matters related to macroeconomic policy.

Against the background of strong development performance in many LICs starting in the mid-1990s, a recent World Bank study notes a slowing of progress following the end of the global commodity boom in 2014. Since the onset of the COVID pandemic in 2020, this slowdown has evolved into an outright reversal, with per-capita incomes in fully half of the LIC economies now diverging from those of wealthy countries (Chrimes *et al.* [2024](#)). Fund engagement with the LICs has correspondingly intensified since 2020, including their use of the Fund’s concessional lending facilities and their reliance on the Fund’s coordinating role in external debt restructurings.

c. Use of Fund resources by LICs.

As indicated in [Table 1](#), the LICs are a significant group at the IMF, comprising nearly 40 percent of the Fund’s membership at the outset of the MRLIC project in 2012. In addition to their ongoing engagement with Fund staff via surveillance missions, LICs have exclusive access to the Fund’s PRGT lending facilities, which provide concessional support to address medium-term (Extended Credit Facility, ECF), short-term (Standby Credit Facility, SCF) and urgent (Rapid Credit Facility, RCT) balance of payments needs. LICs also have access to concessional funds from the Resilience and Sustainability Trust (RST), initiated in 2022 to help low- and middle-income countries under fiscal pressure address climate change, pandemic preparedness, and other structural challenges to macroeconomic and balance of payments stability. Since its inception in 2005, LICs have also had access to the Fund’s Policy Support Instrument (PSI), a non-lending program that is construed as technical assistance but involves policy conditionality and therefore a commitment of staff resources that goes beyond the requirements of normal surveillance.⁶

⁵ The HIPC (Highly Indebted Poor Countries) and Enhanced HIPC [debt relief initiatives](#) were launched in 1996 and 1999. The Multilateral Debt Relief Initiative (MDRI) began in 2005 and applies to countries that have completed the HIPC process.

⁶ The Fund eliminated the PSI in October 2023, but all IMF members remain eligible for the non-lending Policy Coordination Instrument (PCI), which initiated its first program in 2017.

The LIC-2012 group made heavy use of the Fund’s lending facilities, initiating 5.3 new lending programs per member on average over 2000-2024, by comparison with 1.9 new programs for countries that were not PRGT-eligible in 2012. Fewer than 10 percent of the IMF’s PRGT-2012 group made no use at all of IMF lending facilities during 2000-2024, by comparison with nearly half of non-PRGT-eligible members. The LIC-2012 group also received substantial Fund support via the PSI and its successor: of the 27 non-lending conditionality programs initiated by IMF members since 2005, more than 80 percent (22) were undertaken by countries in the PRGT-2012 group. The LIC-2012 group also made intensive use of the Fund’s free-standing technical assistance and capacity development resources.

Table 1 IMF membership and lending programs by PRGT eligibility in 2012

Country group	Number of IMF members in 2012	Number of IMF lending programs initiated 2000-2024	Average number of lending programs initiated per IMF member	Proportion of members with at least one IMF lending program initiated 2000-2024 (%)
	[1]	[2]	[3] = [2]/[1]	[4]
Total	187	595	3.2	66.8
Not PRGT-eligible	115 (61.5%)	217 (36.5%)	1.9	51.3
PRGT-eligible	72 (38.5%)	378 (63.5%)	5.3	91.7

Sources and notes to Table 1:

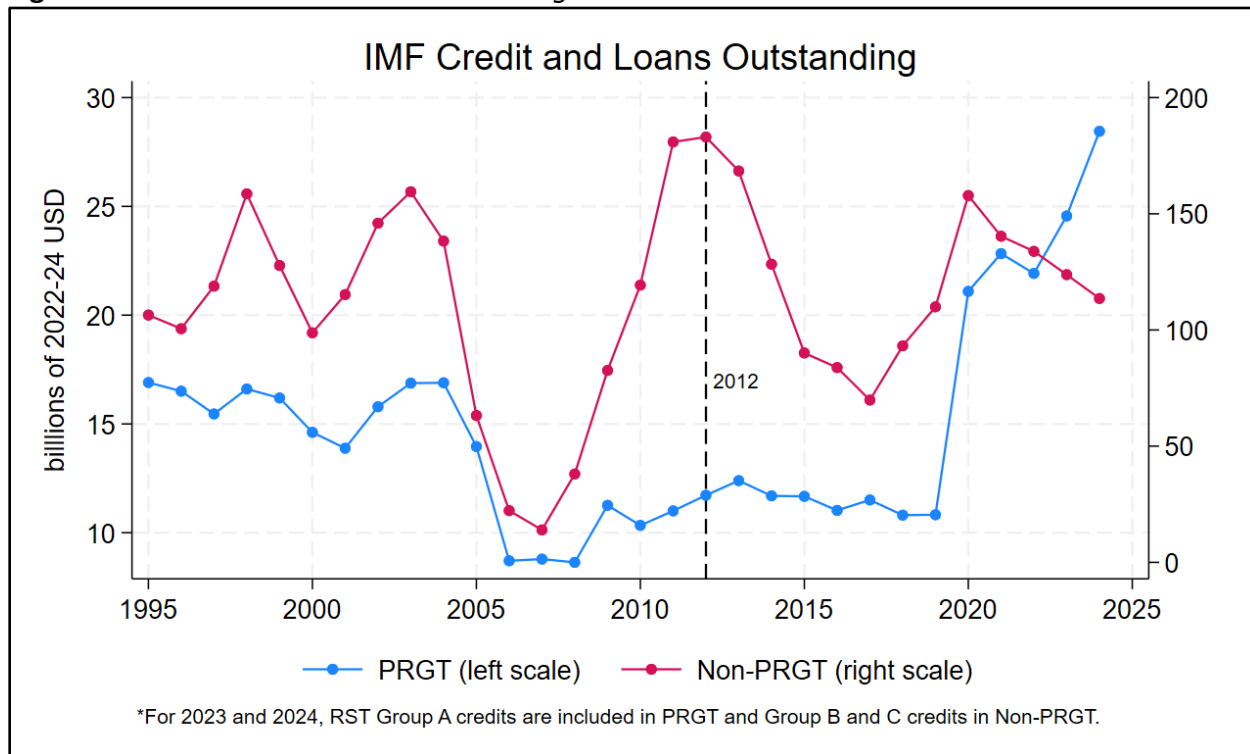
[1] By comparison with Table 1 IMF (2012), column 1 here excludes Zimbabwe, for which we have no IMF lending data. Zimbabwe would have been PRGT eligible in 2012 except for its arrears on PRGT obligations. We also include South Sudan as PRGT eligible; it was not listed as such in [IMF \(2012\)](#) but became eligible later that year.

[2]-[4] Annual data on all IMF lending programs by country, for countries with at least one lending program between 1952 and 2025, were provided by the IMF. The list of countries includes 68 of the 72 PRGT-eligible IMF members in 2012 and 88 of the 115 non-PRGT-eligible countries in 2012.

[Figure 1](#) shows the evolution of IMF credit outstanding between 1995 and 2024, distinguishing PRGT facilities, which are concessional and, by definition, available only to LICs, from non-concessional facilities. Because of the small size of LIC economies, the share of PRGT facilities in overall IMF credits is far below the 63.5 percent of IMF programs accounted for by LICs in Table 1, averaging 13.5 percent over the same period. As indicated in the figure, significant developments in PRGT funding were underway as the MRLIC project was being formulated. PRGT credit outstanding fell sharply in real terms with the onset of MDRI debt relief for the LICs in 2005, and then remained below pre-2005 levels as lending to advanced and emerging-

market economies surged in the context of the global financial crisis. As of 2011, PRGT loans constituted less than 6 percent of the Fund’s outstanding portfolio.⁷

Figure 1 IMF Credit and Loans Outstanding



Source: IMF.

The MRLIC project was therefore introduced against the background of a sharp pivot in IMF attention away from the LIC group, at least as measured by the volume and share of concessional lending in the IMF’s portfolio. As the IMF turned its attention to the global financial crisis, thoughtful observers including the Fund’s resident historian produced a set of essays ([Boughton and Lombardi 2009](#)) on what the IMF’s role in low-income countries ought to be. Contributors urged a re-thinking of that role in light of the Millennium Development Goals, the new fiscal space generated by multilateral debt relief, and the prospect of declining official assistance in the wake of financial turbulence in the advanced countries. “The only real debate,” said former Managing Director Michel Camdessus, reflecting on the wide range of

⁷ All IMF members have access to the Fund’s non-concessional facilities subject to facility-specific restrictions, so the 13.5 percent reported here constitutes a lower bound on the share of IMF claims originated to PRGT-eligible countries in total IMF credits and loans outstanding. We do not have access to the loan-specific balances required to compute the latter ratio, but the upward adjustment would not be large. For the set of PRGT-eligible countries in each year, the aggregate ratio of outstanding non-PRGT credits to total outstanding IMF claims averaged 16.4 percent over the 2010-2024 period, while the same ratio calculated as an average across PRGT-eligible countries was 10.1 percent (the difference reflecting the greater relative use of non-concessional borrowing by some larger PRGT economies).

views extant at the time, “concerns *how* best to strengthen the IMF so that it can serve its low-income members most effectively.”⁸

3. Alignment of priorities, structures and processes

Summary: By focusing initially on two, key monetary and fiscal policy issues and later expanding to address diversification, natural resources, gender and inequality, the MRLIC project aligned well with the priorities of FCDO, the IMF, and governments of LICs. The alignment was facilitated by processes that emphasized consultation and mutual accountability. The project ensured that the resources were truly additional and deployed in a cost-effective manner.

We turn now from context to assessment. First, how well did the MRLIC project align the strategic priorities of its three stakeholders: FCDO, the IMF, and the LICs? Our interviews and review of project documents reveal an extraordinary degree of alignment between the FCDO and the IMF. This was accomplished through intensive consultation that leveraged the strengths of both institutions and kept IMF priorities in the lead. Alignment with LIC priorities was indirect by design because it was driven by the Fund’s engagement with LICs. Nevertheless, our interviews with LIC officials reveal very strong alignment in areas directly related to macroeconomic management. Ministries of Finance were navigating fiscal policy reforms, infrastructure deficits, and limits on non-concessional borrowing; and Central Banks were modernizing their monetary policy frameworks. In these areas, where the evidence we present below indicates that local policy needs are poorly served by external academic incentives, the project’s research and capacity-building activities could hardly have been more tightly aligned with country priorities. This was especially true when those priorities moved ahead of long-standing IMF practices, as they sometimes did in the domain of monetary policy frameworks.

Several specific features of the project underscore the alignment among its stakeholders. DFID first approached IMF researchers around 2010, to explore their interest in receiving external support for research on financial inclusion. Unlike the World Bank’s Trust Fund mechanism, the IMF did not have a facility for external funding of core research activities. The Fund counterparts therefore let the matter drop, electing not to pursue what would necessarily have been an innovative arrangement, given the remoteness of the topic from the Fund’s core mandate and their own research agenda. The project emerged only later, when DFID returned with an invitation to the project’s founding co-directors to develop a proposal of their own. By design, this approach would align directly with the Fund’s priorities, as expressed by and ultimately influenced by, their own research agenda in LICs.

⁸ Boughton, James M. and Domenico Lombardi (2009) *Finance, Development, and the IMF* (Oxford, Oxford University Press), p. vi.

The project's structures and processes maintained strong alignment between FCDO and the IMF and between the project and the interests of the LICs. The thematic and activity structure of each of the four 3-year phases of the project was based on an MRLIC research proposal that was agreed upon by both institutions. Within the Fund, the project was a cross-departmental collaboration between the divisions that were headed by its two co-directors, who were already collaborating on multiple LIC-related research papers. Our interviews underscored the unusual nature of this institutionalized link. The Research Department (RES) is the main seat of research at the Fund, while the Strategy, Policy and Review Department (SPR) is responsible for strategic coherence at the Fund. There is a potential tension, familiar to staff in policy organizations like the IMF, between the production of new and empirically-grounded ideas and the maintenance of institutional discipline in policies and messaging. Especially during the first half of its existence, therefore, the project seized an unusual opportunity to navigate this tension directly, on behalf of LIC-related research and policy. The resulting collaboration elevated both the profile of LIC research at the Fund and its influence on the Fund's strategic thinking.

Our interviews, along with a pair of confidential external assessments of the activities of the Research Department in 2009 and 2013, simultaneously underscored the IMF's comparative advantage in producing macroeconomic research on low-income countries and the factors that tend to marginalize LIC-related research efforts within the IMF. Later in this section, we provide evidence of the Fund's comparative advantage, within the context of research produced elsewhere. The internal impediments to LIC-related research are simply the flip side of this comparative advantage. In parallel with the prohibitive costs the rest of the world faces in conducting macroeconomic research on countries with poor aggregate data, limited systemic relevance, and weak domestic research systems, the Fund's internal research priorities are powerfully drawn towards the emerging-market and advanced countries.

The Fund's collaboration with FCDO expanded the resource envelope for LIC-related research while also incorporating a layer of external scrutiny in the form of annual quantitative output targets and detailed performance reviews. These leveraged the FCDO's evidence-based internal project cycle. Our view is that the additional scrutiny reinforced the Fund's priority, discussed earlier, of strengthening its institutional role in LICs. It did so by helping the two LIC units not only expand their work but also make a more powerful case for it within the Fund. This function is analogous to a widely-acknowledged role of IMF conditionality when there is a high alignment of reform intentions between the country authorities and the IMF. In such cases conditionality can help the authorities manage domestic opposition to reform ([Rodrik, 1996](#)). In a similar way, the MRLIC project did not alter the Fund's priorities but made a difference by mobilizing internal support for them.

The thematic focus of MRLIC research has evolved over time in line with the Fund's priorities. Four areas of consistent focus have been central to the Fund's engagement with LICs: public investment and debt sustainability, fiscal management of primary commodity revenues, monetary policy frameworks including exchange-rate management, and structural determinants of diversification and growth. Early on, the project incorporated a focus on

inequality, building on Fund research that was underway before the project began and responding to the Fund-wide impetus provided by Managing Director Christine Lagarde (appointed in 2011). The incorporation of research on gender inequality was similarly supported by the elevation of gender issues across the Fund's work. In line with the evolving priorities of LICs, issues related to natural disasters and climate resilience were gradually incorporated across the MRLIC agenda.

The close alignment of MRLIC's thematically based agenda with the Fund's institutional priorities plays a key role in underpinning both the quality of MRLIC research and its impact within the Fund. The institution's commitment to the same themes places its broader resources at the disposal of MRLIC researchers, who are engaged in work of core interest to the Fund. Synergies with other Fund research are strong, an observation underscored by ongoing co-authorship between MRLIC researchers and other Fund staff, including staff from area departments who apply the research in their country work. Collaboration also takes place on issues of MRLIC focus that are highly relevant in emerging-market and advanced countries, such as gender inequality. The dissemination of LIC expertise within the Fund occurs through multiple additional channels, including presentations by Visiting Scholars, conversion of MRLIC contractually to Fund staff, and movements of MRLIC researchers into other parts of the Fund.

4. Research Outputs

Summary: The MRLIC project generated a substantial volume of macroeconomic research on low-income countries, in a context where the macro content of development journals is declining and the LIC content of macroeconomic journals is low. The project appears to have arrested a decline in the share of IMF working papers on LICs. The quality of the research output, measured by citation indices, is high. Dissemination through capacity development as well as social media has been substantial.

a. The IMF in the Macro/LIC research ecosystem

The IMF's comparative advantage in producing macroeconomic research on low-income countries emerges clearly in a comparison of the thematic content of the IMF's Working Paper series with that of leading field journals and the World Bank's Policy Research Working Paper series. We begin with academic journals, which represent the cutting edge of economic research and therefore convey the thematic direction of the research questions and methods occupying the profession ([Angrist et al. 2017](#)). [Figure 2](#) conveys the results of an empirical exercise in which we classified academic articles as containing macroeconomic or LIC content, based on a digital text analysis of their abstracts.

Our assessment of macroeconomic content goes beyond monetary and fiscal policy, open-economy macroeconomics, and macro-finance to include issues of growth and structural transformation that are of central relevance to the IMF's mission in LICs. Despite this

broadening of the concept, [Figure 2](#) makes clear that between the early 2000s and 2012, the macro content of leading development journals had fallen by nearly a third. It is likely that this development was driven in substantial part by the revolution in empirical methods and research priorities that accompanied the implementation of randomized control trials in developing countries. The promise of ‘finding out what works’ gave a powerful impetus to this style of research in the context of the Millennium Development Goals. The ongoing shift in macroeconomic research towards computationally demanding general-equilibrium modeling may also have played a role. Whatever its sources, however, a persistent decline in the attention of development journals to macroeconomic research would have been apparent by the time the MRLIC project was initiated.

We classify leading macroeconomics journals, in contrast, by the attention they devoted to LICs. Again taking a broad lens, we searched abstracts not only for variants of obvious tags like “low-income countries” but also for any mention of countries that were IDA-eligible as far back as 1995, on the argument that research on recent IDA graduates would be of clear relevance to countries that remained IDA eligible in 2012. With this broad lens in mind, [Figure 2](#) suggests that the macro journals entered the new millennium paying virtually no attention to the LIC economies. Despite a slow upward trend during the first decade of the 2000s, the share of LIC content in these journals remained below 5 percent in 2012.

There are powerful factors limiting the representation of LICs in academic research, both in macroeconomics and more generally.⁹ Macroeconomic research relies on data. And data is notoriously less available and less reliable in LICs compared with emerging-market or advanced countries. Overburdened educational systems and weak public institutions constrain the development of local research capacity from both the supply and demand sides. Das *et al.* (2013) report a strong correlation between a country’s per-capita GDP and economic research output on that country, with a research-wealth elasticity of 0.32. Addressing the constraints on LIC research is therefore a global public good, and one that the IMF is uniquely well suited to provide, with its privileged access to data and policymaking, its deep macroeconomic expertise, and its mandate to serve all members.

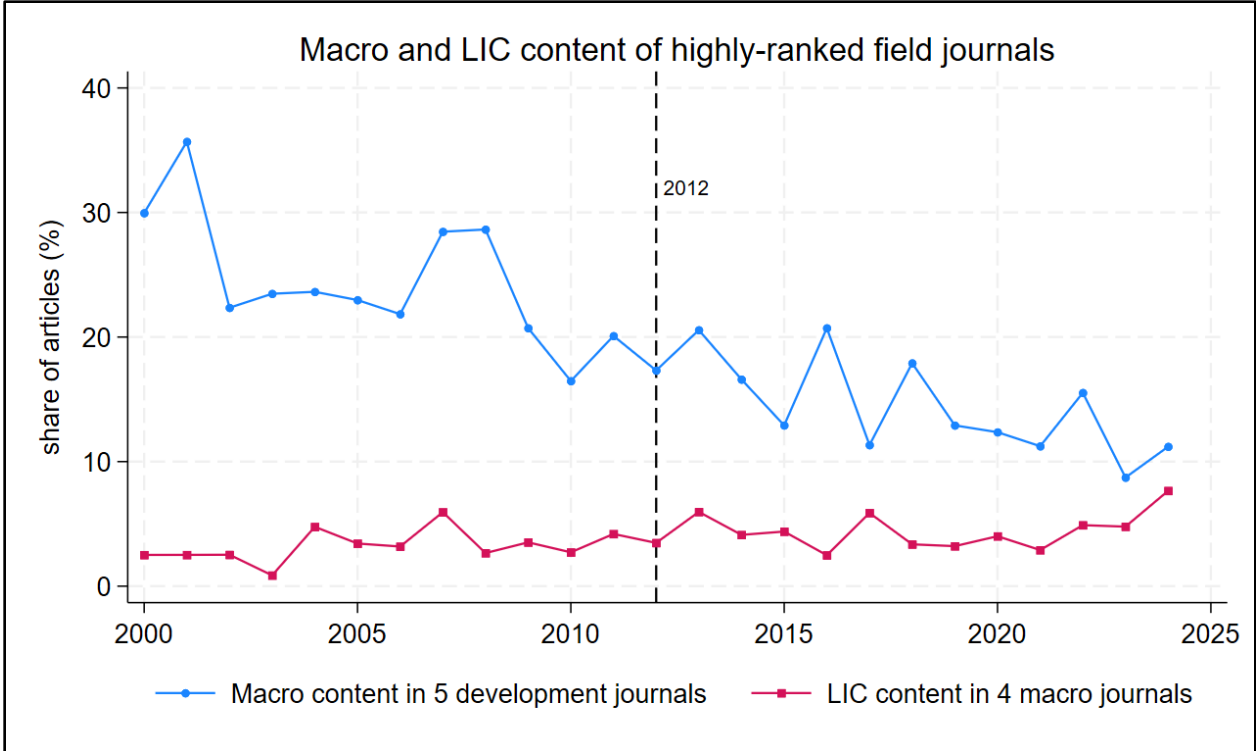
In [Table 2a](#), we develop this argument by applying the content analysis of [Figure 2](#) to the abstracts of IMF Working Papers. By comparison with the field journals examined in [Figure 2](#), the IMF’s working paper series contains extremely high LIC content when construed as a macroeconomics outlet and extremely high macroeconomics content when construed as a development-economics outlet. The final two rows of [Table 2a](#) suggest that the MRLIC project reinforced the positioning of the Working Papers series in both respects. The LIC content of the working papers produced by the MRLIC project was more than 200 percent (50 percentage points) higher than for Working Papers originating elsewhere at the Fund, a source that of course includes LIC-related work from elsewhere in the Research Department as well as from

⁹ [Goldstein and Menendez \(2025\)](#) examine empirical research published in the top generalist journals in economics between 2015 and 2025. They find that fewer than 1% of such articles focused on Sub-Saharan Africa or its five largest countries by population.

area departments with large representations of PRGT-eligible countries. The macro content of the MRLIC papers was nearly 13 percentage points higher.

A content comparison of the IMF Working Papers series with the World Bank’s Policy Research Working Papers series underscores the distinct but overlapping roles of the two institutions. In the first two rows of [Table 2b](#), the abstracts of World Bank Working Papers indicate a LIC content that is slightly more than twice the proportion in the IMF series. Such a difference would of course be expected, given the inclusion of advanced countries within the mission of the Fund. But the LIC content of the MRLIC working papers exceeds that of the World Bank series. The IMF’s macro coverage, in turn, is roughly 2.5 times that of the World Bank series, despite our widening of the macro search to include development-leaning dimensions like growth and structural transformation. The macro content of the MRLIC working papers, moreover, is above that of the overall IMF series as noted above.

Figure 2 Macro and LIC content of highly-ranked field journals



Notes: See Appendix for details. Development journals: Journal of Development Economics, Economic Development and Cultural Change, Journal of Development Studies, World Development, World Bank Economic Review. Macroeconomics journals: Journal of Monetary Economics, Journal of Macroeconomics, Review of Economic Dynamics, Journal of International Money and Finance.

Table 2a *Number and content of IMF Working Papers, 2000-2024*

Period	Attribution	IMF Working Papers published		Proportion with LIC content (%)	Proportion with Macro content (%)
		Total	Annual average		
2000-2011	All	3,175	264.6	25.4	61.4
2012-2024	All	3,640	280	25.3	59.5
	MRLIC project	173	13.3	73.0	71.8
	Non-MRLIC	3,467	266.7	23.0	58.9

Note: The reported proportions with LIC and Macro content are averages of year-by-year proportions.

Table 2b *Number and content of World Bank Policy Research Working Papers*

Period	Attribution	World Bank Policy Research Working Papers published		Proportion with LIC content (%)	Proportion with Macro content (%)
		Total	Annual average		
2000-2011	All	3,646	304	52.1	24.2
2012-2024	All	4,945	380	56.3	28.2

b. Research outputs

[Table 3](#) comes from the MRLIC [Annual Report of 2024](#), which outlines the project’s research activity by category and fiscal year, and from the list of outputs available on the project web page. We have aggregated the information in these sources into 3 four-year periods to clarify the time line. These numbers, and the accompanying narrative descriptions that appear in the project’s [Annual Reports series](#), testify to the project’s broad reach.

Working Papers constitute the base for presentations at high-level policy conferences attended by senior IMF staff and for published papers in academic books (including those produced by the project) and highly ranked journals. More importantly for IMF operations, the research reported in Working Papers drives the development and application of models and toolkits that enhance the Fund’s core business of policy advising, capacity building (including technical assistance) and lending.

The trajectory of project outputs, shown in [Table 3](#), reflects a variety of influences incorporated into annual targets, including publication lags, the throughput of new ideas from working papers to toolkits and datasets, and the funding decline associated with the COVID pandemic. The height of the project’s conventional research productivity, in the first three lines of Table 3, occurred in the middle period of 2017-20, and the same is true for a number of the other output categories. Every category in the table, however, shows higher output in the most recent period than in the first four years of the project. This is a powerful indicator of the ongoing coherence and continued strong management of the project.

Table 3 *Research outputs by category*

Type of output	Averages per fiscal year*			Total, all years
	2013-16	2017-20	2021-24	
Working papers	14	18.5	15.5	192
Published papers	6.3	13	9	113
Books	0	2	1	3
Toolkits	3	7	6	16
Courses (the first was in FY2017)	0	6.7	8	52
Instances of uptake by country authorities and IMF teams	14.3	26.0	15.5	223
High-level policy conferences attended by senior IMF staff	3.3	6.8	4	56
Research reflected in IMF policy papers, such as Board papers, Staff Discussion Notes, and memos to management	3.3	7	5.3	62
Thematic areas of IMF policy influenced and made LIC-specific	1.3	1.8	2.3	21

Source: [Annual Report 2024](#), p. 9, and List of Outputs: Year 1 to 12 (Excel), both on the [MRLIC website](#).

*The IMF’s fiscal years run from May 1 of the previous calendar year to April 30.

In the remainder of this section, we focus first on the quality and reach of the project’s working papers and published outputs, by updating the overviews of citations and social media attention that appeared in the first section of [IMF \(2021\)](#). Together with a value-for-money calculation that compares outputs to budgetary inputs, this exercise corroborates the highly favorable evaluations the project has received from DFID and FCDO. We then turn to the inherently challenging question of whether the MRLIC project increased the volume of LIC-related research relative to a plausible counterfactual. Focusing on the IMF Working Papers

series, we document the sharp drop in LIC-related content that was underway as the project started. We argue that the project’s additionality against this counterfactual was substantial.

c. Citations and social media attention¹⁰

Citations of scholarly work provide a reliable metric of thought leadership and suggest that the research papers produced by the project have been of high quality. According to [Lens.org](#), MRLIC papers published in any regularized form (including the IMF Working Papers series, other working paper series, academic journals, or books) were cited 5,969 times cumulatively by other published papers as of May 5, 2025. This figure excludes all self-citations by IMF authors (of which there were 529). Fully 86 percent of MRLIC papers have been cited at least once, and 37 percent were cited more frequently than the average of papers published over the same time period in the fields of ‘applied economics’ and ‘econometrics’, according to Field Citation Ratio (FCR) calculations by [Dimensions.ai](#). Eleven papers achieved FCR rankings 10 times the average. According to Galvez and Galiani (2017), research published in social science typically takes approximately eight years to reach maximum citations. To date, only 35 percent of the publications from MRLIC research have reached the age of eight years. Citations will therefore continue to accumulate.

According to [Overton.io](#), MRLIC research was also cited in 2,786 publications – mainly working papers – issued by policy institutions such as central banks, multilateral development banks, other international organizations, and think tanks. Nine of the citing central banks are located in LICs. Among the citing organizations, 71.5% are international governmental organizations, 13.1% are government agencies, and 15.4% are think tanks, legislative bodies, and non-governmental organizations.

Social media mentions are more fleeting than citations, but constitute an increasingly prevalent form of research dissemination and can generate reputation effects that draw in new audiences. [Altmetric Explorer](#) finds 1,568 social media mentions of papers produced by the MRLIC project. 130 separate papers were mentioned, primarily on the X platform, from locations spanning 78 countries including 16 LICs. The overall sentiment of these mentions is positive, with 58 percent classified as positive or strongly positive. Not surprisingly, papers that include LICs but focus on issues of global relevance are among those with the highest number of mentions. The same is true of press coverage; a paper on the macroeconomic consequences of tariffs across a global sample, for example (Furceri and others [2019](#)), has been featured in 63 recent news stories from 53 media outlets including CNN, MSN, Yahoo!, and CNBC.

d. FCDO funding and research value for money

The budgetary contribution of the MRLIC project to LIC-related research at the Fund is difficult to determine because the IMF does not publicly disclose data on its operating budget

¹⁰ The calculations in this section were provided to us by Gladys Mitchell of the IMF Library, who updated her colleagues’ contributions to [IMF \(2021\)](#).

disaggregated by department or division. Our discussions with IMF officials, however, suggest that the project's contribution was highly significant for the Development Macroeconomics Division of the Research Department (RESDM), accounting for between 20 and 35 percent of the spending of that division in recent years.

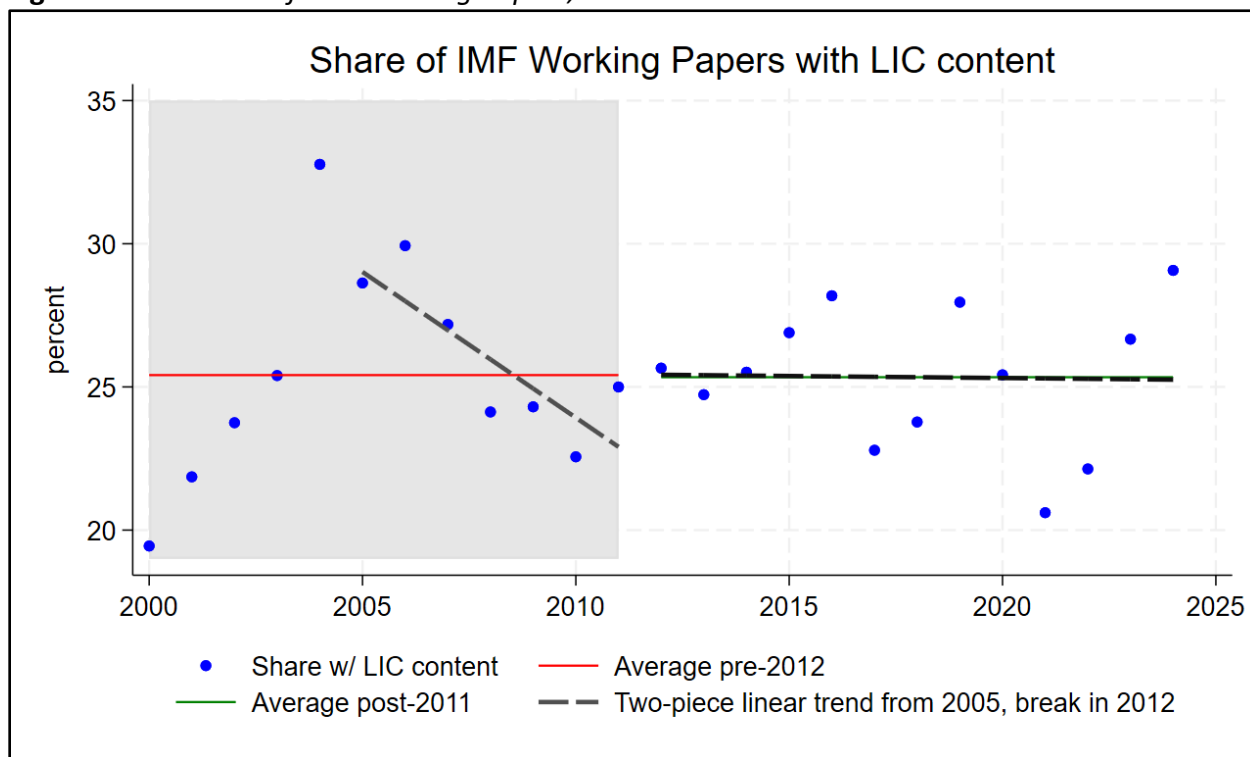
Plausible estimates of the project's budgetary costs per unit of research output suggest very substantial value for money. The [2024 MRLIC Annual Report](#) estimates that over the full life of the project and across the two divisions in which the project was housed, 70.1 percent of the project budget was devoted to producing research papers and capacity-development tools, with the remainder going to country applications and indirect costs. This allocation results in a research-staffing cost per IMF Working Paper of \$72,417, a figure that is less than half of the typical range for comparable research projects. The estimated cost per paper would be all the more impressive if the capacity-development activities of MRLIC research staff were excluded. Our own 'allocation-free' back-of-the-envelope calculation, which by design includes the remaining 29.9 percent of the project budget, suggests that the overall budgetary cost per IMF Working Paper was roughly half the total cost per paper incurred by similar donor-financed research arrangements in a comparable development institution.

e. Quantifying MRLIC impacts: IMF Working Papers

The IMF Working Papers series constitutes the largest single destination for research published by IMF staff, and, as emphasized above, is upstream of the full range of project impacts. For that reason we take a close look at what the MRLIC project contributed to this series. As indicated in [Table 2a](#) (discussed above), the project produced working papers at a pace of over 1 a month, constituting nearly 5 percent of the total flow of working papers produced at the Fund since 2012. Were these MRLIC contributions additional, or would a roughly similar overall configuration of working papers have emerged in the absence of the IMF/FCDO collaboration?

The complexity of this question is immediately apparent in [Table 2a](#). The volume of outputs provides a strong impression of additionality, with the 13.3 Working Papers contributed per year by the MRLIC project corresponding closely to the overall increment to the annual average output of the series as a whole. But despite the very strong LIC content of the MRLIC papers, the LIC content of the overall series shows no change at all across the two periods. This second observation is reproduced in [Figure 3](#) below. Based on the means alone, the LIC content contributed by the MRLIC project would appear to have been fully offset by reductions in the LIC content of contributions originating elsewhere at the IMF.

Figure 3 LIC content of IMF Working Papers, 2000-2024



As shown in Figure 3, however, the earlier period combines a sharp increase in attention to LICs between 2000 and 2004 with a precipitous decline starting in 2005. The 2000-11 average is therefore unlikely to constitute an appropriate counterfactual for the evolution of LIC content in the absence of the MRLIC project. To highlight the decline phase, we estimate separate linear trends for the 2005-11 and 2012-24 periods. The earlier phase began with the implementation of Multilateral Debt Relief Initiative (MDRI) debt relief in 2005. This was the culmination of a decade of intensive multilateral debt relief efforts in which the IMF was deeply involved both as a creditor and as a certifier of the macroeconomic reforms required to qualify for relief. The decline phase was punctuated by the global financial crisis of 2008-09, which originated in the advanced countries, and ended in the throes of the Euro Zone crisis. We have already discussed the Fund’s sharp pivot in favor of non-PRGT lending during this period.

These observations suggest that a plausible counterfactual as constructed around 2010 or 2011 would predict ongoing LIC content substantially below the pre-2012 average. Correspondence among DFID officials in the period preceding the project suggests that this consideration was among their motivations in approaching the Fund. Against such a counterfactual, the MRLIC project had a strongly additional impact on the attention devoted to LIC concerns in the IMF Working Papers series. The qualitative evidence we report below provides further corroboration of additionality throughout the activities supported by the MRLIC project.

f. Capacity building

The Institute for Capacity Development (ICD) was created in 2012 and given the mandate of defining the Fund’s capacity development strategy, merging the IMF Institute with related technical assistance functions at the Fund. Since the IMF’s commitment to capacity building in LICs was long standing, it is not clear that any additional impetus to this commitment was needed at the outset of the MRLIC project. Nevertheless, as we discuss further below, there were questions of quality and content related to the analytical frameworks that dominated the Fund’s bilateral engagement and technical assistance in the areas of monetary policy, fiscal management, and debt sustainability. As indicated in [Table 3](#), the MRLIC project contributed an array of ICD courses starting in 2017, a development that built on the innovative papers and toolkits developed in these thematic domains earlier in the project. The incorporation of MRLIC research into the Fund’s capacity building curriculum was undoubtedly facilitated by the move of RESDM Division Chief and project co-founder Andrew Berg to the ICD in late 2014.

5. How MRLIC research affected IMF policies and practices

Summary: The MRLIC research saw substantial takeup in IMF policy advice and program conditions, especially on alternative monetary policy frameworks (“inflation targeting lite”) and debt-investment-growth strategies, as well as on diversification and natural resource management. This takeup was facilitated by various policy papers (building on the working papers), MRLIC researchers’ participation in missions, additional MRLIC researchers joining the Fund staff, and an extensive capacity development program.

The previous section found that the FCDO grant significantly increased the quantity and quality of IMF research on low-income countries. We showed that the number of IMF working papers on low-income countries increased and remained elevated relative to an appropriate counterfactual during the 2012-2024 period, and that the publications from the MRLIC project contributed to macroeconomic research on low-income countries in the major development and macroeconomic journals, in addition to being widely cited and referenced in social media.

Inasmuch as the goal of the MRLIC project was to improve macroeconomic policies and development outcomes through better policy advice, we turn now to the next link in the theory of change, namely, how the research affected IMF policies and practices vis-à-vis low-income countries.

The uptake of research in general by country authorities and IMF teams takes place in the context of annual Article IV missions, including prominently the joint Bank-Fund debt-sustainability assessments that are obligatory for low-income countries, and also in the more intensive engagements characteristic of the Fund’s lending and non-lending programs. There is no question that the outputs of the MRLIC project were used in a large number of these IMF

products in low-income countries. The project's [table of uptakes](#) lists 122 IMF country reports (Article IV reports and project documents) over the past twelve years that explicitly incorporate MRLIC research in their analysis and recommendations. In addition, at least three IMF policy documents—two IMF Policy Papers (IMF [2014](#) and [2015](#)) and Gurara *et al.* ([2019](#))—distilled the lessons from the research and applications into guidance for IMF teams. The range of countries is broad. The project records at least one uptake in 46 separate countries over the course of the project, 29 of which are in Sub-Saharan Africa (SSA), including 10 fragile states. Nine of the countries are non-SSA small island states, and 8 are other PRGT-eligible countries, some of which (Myanmar, Yemen) are also fragile states. Within this group, the countries in SSA average 3.1 uptakes each, nearly twice the average for the 'other PRGT-eligible' subset. The small island states are in between, at 2.1 uptakes, and account for a significant share of uptakes related to climate issues.

Capacity building constitutes a separate form of country uptake: starting in FY2017, the research frameworks and toolkits developed by the project have been featured in courses offered by the Institute for Capacity Development (ICD), both at headquarters and in the regional capacity-development centers. Within the IMF, the research reaches mission chiefs and management in the area departments, together with the Fund's upper management, in the form of Staff Discussion Notes, memos to management, and, at the highest level, Board papers that propose changes in Fund policy.

The interesting question is how this research came to be incorporated in IMF operations. After reviewing the written materials and speaking with a wide range of participants, we have identified four ways in which the MRLIC research had an impact on policies and practice.

a. Working papers

As noted above, the MRLIC project generated a large number of working papers, many of which were subsequently published in scholarly journals or books. Although working papers are the main way researchers disseminate their work, they influence IMF policies in different ways.

Rarely does a single working paper get translated into a policy prescription. A former senior IMF official noted that working papers tend to be generic whereas policy is usually context-specific. There may also be some resistance among operational managers to adopting the new and different ideas contained in working papers. No mission chief wishes to be the "guinea pig" in implementing the novel approach in a working paper. Some also felt that these papers, written by academics and researchers, were too detached from the reality on the ground, especially in low-income countries. One official put it starkly: "Nobody in the area departments reads working papers." This phenomenon is not unique to the Fund; 37 percent of World Bank policy reports have never been downloaded, and 87 percent were never cited (Doemeland and Trevino, [2014](#)).

The main way working papers have an impact on Fund policy is when a body of work, which has already been published and disseminated at high-level conferences, gets distilled in a policy

paper or synthesis document. MRLIC working papers provided the basis for IMF policy papers, such as the [2014](#) and [2015](#) policy papers on monetary policy frameworks, and staff guidance notes and special issues papers, including the [2019](#) paper on policy lessons from country applications of the debt-investment-growth (DIG) model and its extensions (Gurara et al. 2019). In turn, the combination of working papers and policy papers adapting the IMF's Forecasting and Policy Analysis System (FPAS) for use in low-income countries contributed to the emerging consensus on inflation targeting in low-income countries. This shift in thinking, and the favorable results on the ground—most of the LICs with inflation-targeting avoided high inflation during the 2022 global surge—represent a major contribution of the MRLIC project.

Furthermore, since working papers are publicly available, their indirect influence on Fund policy worked through a different channel. Researchers at one LIC central bank learned about inflation targeting through the MRLIC working papers (as well as other IMF working papers oriented towards emerging market countries), and proposed to their management that they request the Fund's assistance in exploring these ideas for their country. At the time, the Fund's attitude was that inflation targeting was premature for LICs, given the thinness of their capital markets and unreliability of their monetary transmission mechanisms. Conditionality remained solidly anchored in reserve-money programming. But when officials of the central bank were requesting IMF support in introducing ideas from the MRLIC research in their program, it was difficult for IMF management to refuse. Today, that country has a full-fledged inflation-targeting regime and has maintained low inflation even during the post-pandemic period. Several other central-bank officials in LICs said they first learned about some of the innovations that are now in their countries through IMF working papers.

It is worth asking whether the MRLIC project could have done more to disseminate the ideas to policymakers and researchers in low-income countries beyond the channels set out in the project's log frame. For instance, MRLIC researchers could have worked with African research institutions, such as the African Economic Research Consortium, in training researchers in the new models and techniques. Several senior African policymakers, who are also distinguished economists, were unfamiliar with the MRLIC project, including studies of their own country. (One of them first heard about the MRLIC project when we contacted him for an interview.) There also seems to be a limited overlap in the reference sets of leading African policy researchers and MRLIC researchers. Despite the constructive relationship between the Fund and the Tanzanian authorities under a sequence of Policy Support Instruments (2007-2017), the parallel overview papers that appeared in the project's 2018 book [Monetary Policy in Sub-Saharan Africa](#), one by Benno Ndulu and Joseph Masawe, respectively Governor and Research Director of the Central Bank of Tanzania during much of the PSI period, and the other by MRLIC researchers and volume editors Berg and Portillo, had almost no overlap in their bibliographical references.

b. Participation of MRLIC researchers in country teams and missions

The biggest take-up of MRLIC research in Fund operations occurred through participation of MRLIC researchers in country teams and discussions with the authorities. Having developed

frameworks such as the Forecasting and Policy Analysis System (FPAS) and DIG family of models, the researchers would typically provide an application to the country and address issues of concern in real time. The application provided the link between the ideas in the working paper and the particular issue facing the country. The researchers would also conduct training courses and seminars to disseminate the research to country teams and the authorities. Mission chiefs and other managers welcomed this addition to their toolkit. Since some of the MRLIC researchers were distinguished economists (hired as visiting scholars or contractual staff by the MRLIC project), younger staff appreciated the opportunity to learn from and interact with these scholars. Country counterparts also benefited from this interaction; in at least one [case](#) (Issoufou et al. 2014), they became co-authors of the background paper and made the presentation to their own government officials.

Importantly, the participation of researchers in country teams and missions opened up the space for additional dialogue between the IMF and the authorities. The DIG model provided a platform for a discussion about public investment priorities and management practices. For instance, when Ghana was facing debt problems and the LIC debt sustainability analysis (LIC-DSA) showed there was limited scope for non-concessional borrowing, the DIG analysis found that, with gradual increases in user fees and investment efficiency, a more ambitious investment program can be sustained with modest debt. Another example was when the Fund's relations with a country with serious macroeconomic imbalances were, in the words of the mission chief, "tense." The DIGNAR model (an extension of the DIG model to include natural resources) opened up a discussion of structural transformation of the country, identifying a set of policies beyond stabilization that would benefit society. That same country's authorities also appreciated the fact that, thanks to the MRLIC research incorporating inequality, the financial sector reform program took into account the distributional implications of financial liberalization. In some cases, the application led to a different perspective on the fiscal adjustment program. In the above-mentioned case of [Senegal](#), the model was used to design a program that focused on the energy sector, enabling a modernization of the sector while reducing unproductive subsidies. In this way, the fiscal adjustment would be associated with an improvement in energy efficiency, making the austerity more palatable.

The training and technical assistance undertaken by the MRLIC team had important, long-term effects. It permitted engagement between the Fund and the country on these issues beyond the life cycle of a mission team. On monetary policy, the MRLIC team responded to countries that were leaning towards "inflation-targeting-lite" (ITL) more strongly than did other Fund departments, such as the Monetary and Capital Markets Department (MCM), who were traditionally in charge of technical assistance on these matters. MCM thought that these LICs were "not ready" for the more sophisticated approaches that the FPAS call for. Nevertheless, a central bank official in at least one of these countries thought they were ready, and the fact that they have adopted ITL in that country suggests he was right.

c. MRLIC contractuals, visiting scholars, and IMF staff

The MRLIC project enabled the LIC divisions in the Research Department and SPR to hire a number of economists, mostly from universities, as visiting scholars or contractual (i.e. temporary) staff. Many of the senior people who helped pioneer the analytical frameworks of the MRLIC project, and, as noted above, played a critical role in translating this research into policy, remained based in their home universities. Rough estimates suggest that about one-fifth of the researchers brought in under the MRLIC project joined the regular IMF staff.

The project therefore encouraged collaboration between Fund staff and academics on low-income country issues, mirroring the strong collaboration already present on emerging markets. It also strengthened the Fund's capacity by bringing in economists whose expertise went beyond the standard tools of the institution. One economist, who was hired as a contractual because of her knowledge of heterogeneous-agent models, began by developing a new model that incorporated inequality and gender. As a staff member, she has since been extending these models to middle- and high-income countries such as Argentina and the United States (the Fund's inequality and gender initiatives were aimed at all countries).

For all affiliated researchers, whether visitors, contractuals, or incumbent research staff, the MRLIC project provided time and space to develop new models, test them out with data, and then engage with country teams and the authorities on the models' findings and implications. Those who have remained at the Fund are taking these skills with them as they take on more senior roles at the institution, deepening the Fund's engagement with LICs and benefiting a wider swath of the world. For instance, Chris Papageorgiou, a former chief of the division in the research department that housed the MRLIC project, is currently the mission chief for Bangladesh and is making use of the work on diversification for that country; his predecessor, Andrew Berg, is now the deputy director of the Institute for Capacity Building (ICB), where much of the training on FPAS and the DIG models takes place; and Catherine Patillo, the head of the SPR unit that partnered with RES on the MRLIC project at its inception, later became deputy director of the African Department and parlayed the MRLIC tools and insights into the work in these countries.

d. Capacity building

The MRLIC team devoted significant resources to the development of macro models and toolkits and undertook numerous training activities, both formal and informal, which contributed to the incorporation of the research in the Fund's and countries' policy work. These activities distinguish the IMF from most other research organizations. Today, the FPAS and DIG+ material is well represented in the curricula of ICB, as well as of the Africa Training Institute in Mauritius and a number of the regional Capacity Development (CD) centers including AFRITAC-East in Tanzania. Yet, more could be done in this area. There does not seem to be as much activity, for example, in the West African CD center (AFRITAC-West 2) based in Accra.

Capacity building could also be undertaken in collaboration with African research and training institutions like the AERC or the Macroeconomic and Financial Management Institute of Eastern and Southern Africa (MEFMI), which have the mandate of building research and policy-analytic capacity in Africa. Some thought could be given, also, to actively promote the demand side for the Fund's CD services in LICs. While the AFRITACs are positioned to respond to demand for capacity building expressed either by country authorities or IMF country teams, some countries may be in denial that they have a problem. Without constructive encouragement to address capacity shortfalls, these countries could be caught in a low-capacity, low-growth trap.

6. How specific MRLIC projects affected IMF policy and country policies

Summary: The shift to inflation targeting lite and flexible exchange rate regimes in low-income countries was spurred by LIC central bankers who drew on MRLIC working papers and requested the Fund's assistance in reforming their monetary regimes. The debt-investment-growth models, in turn, fostered more effective dialogue between the Fund and country authorities on non-concessional borrowing for infrastructure. In short, the MRLIC research catalyzed new approaches to monetary and fiscal policy in LICs. In light of the current crisis of low growth and high debt distress facing many LICs, it is worth asking whether the MRLIC project could have incorporated risk better and how it can help countries navigate fiscal consolidation and monetary policy going forward.

In the case of inflation targeting and flexible exchange rate regimes, the MRLIC project supported a more effective Fund response to the reform agendas of LIC central bankers. MRLIC research on public investment and debt sustainability, in turn, strengthened Fund engagement with LICs over non-concessional borrowing.

Having described how the MRLIC research in general affected IMF policies and practices, we turn now to the cases of specific MRLIC outputs, focusing on the work on monetary policy frameworks (variants of the FPAS) and fiscal policy (the DIG+ family of models). Since, as noted above, some MRLIC research had an impact on country policies directly as well as indirectly through IMF policies, we will consider the two possible links together.

a. Monetary policy frameworks

Despite their relative sophistication, the Forecasting and Policy Analysis System (FPAS) and the general approach to modernized monetary policy frameworks have taken root in a number of low-income countries, including Uganda, Tanzania, and Ghana. All three countries have adopted, or are in the process of adopting, inflation targeting and more flexible exchange rate regimes. Without a doubt, these changes were driven by the output and engagement of the MRLIC project, which produced several working papers on the subject, two Board papers, and a number of missions and workshops with participation of MRLIC researchers. It was helped by the deepening of capital markets in these countries, so that the distinction between emerging

market economies and LICs became blurred. The Board papers of 2014 and 2015 formalized IMF support to countries transitioning from reserve-money targeting to “IT-lite”. Inflation targeting and flexible exchange rates became part of the *zeitgeist*.

The results have generally been favorable. While low-income countries experienced some inflation in the post-Covid surge, most have managed to bring it back to pre-Covid levels. Countries with flexible exchange rates did better than those that tried to keep their exchange rates stable (IMF [2021](#)). Those with inflation targeting fared a little better than their reserve-money targeting counterparts, but the numbers are too small to generalize. A systematic study (Morazumi et al. [2020](#)) found that inflation targeting did not reduce inflation in LICs by as much as it did in emerging market economies. A more recent [dataset](#) of inflation targeting countries has only one low-income country, Kenya.

In addition, the adoption of inflation targeting enabled policy coordination across countries. For example, the MRLIC project, in collaboration with the International Growth Centre, supported productive discussions on monetary policy integration in the East African Community, helped by the fact that the three major countries, Kenya, Tanzania and Uganda, all had, or were in the process of adopting, IT-lite regimes.

AFRITAC, which provides capacity-building on demand, is well placed to continue this work in Africa. For instance, they are currently working in Malawi, a country facing macroeconomic difficulties while keeping the exchange rate fixed. AFRITAC’s support on communications strategies—an essential ingredient in any inflation-targeting program—was especially useful. As noted earlier, collaboration with other African capacity-building organizations such as MEFMI and AERC would be mutually beneficial (the heads of both organizations, whom we contacted because of their previous positions, emphasized their interest in such collaboration).

That said, the translation of MRLIC research into monetary policy in LICs was not always smooth. First, some LICs were more ready for the new framework than the Fund was, given that the Fund’s technical assistance expertise and program conditionality were built around reserve-money programming. Efforts of MRLIC staff to partner with these forward-leaning central banks met some resistance from the Monetary and Capital Markets (MCM) Department, which has the primary responsibility for technical assistance in monetary policy. Issues of institutional turf were compounded by intellectual disagreement over the appropriate degree of reliance on a short-run policy interest rate – the centerpiece of the FPAS structure – when financial markets were poorly developed. In the end, however, and with support from the front office of the African Department, the MRLIC researchers provided support to move both MCM and the countries forward. As a result, the shift to flexible monetary policy benefited from MCM’s emphasis on and experience with institutions, frameworks, and capabilities.

Our discussions with current and former central bank officials in LICs revealed two areas in which the Fund’s approach to monetary policy in LICs could be adapted more closely to LIC realities, and a third area of acute current concern. The first involves increased attention to monetary-fiscal interactions. Our interlocutors cited current, debt-related pressures for fiscal

consolidation as well as ongoing struggles with fiscal dominance (e.g., in Ghana) or fiscal backsliding (as may be happening in Kenya). While such interactions were the bread-and-butter of reserve-money programming, their treatment in dynamic stochastic general equilibrium (DSGE) or quarterly projections models (QPM) is complicated and often sacrificed to other, seemingly more central features of the analysis. The second area of opportunity involves a deeper analysis of the multiple-anchor regimes that appear to be characteristic of many low-income central banks that are ostensibly practicing a version of IT-lite. Models that ignore exchange rate objectives seem poorly adapted to situations where central banks are placing strong weight on the nominal exchange rate, due either to lack of clarity about nominal anchors or to political considerations they are not able to ignore. These are challenging complications to accommodate in the micro-founded models that are the standard fare of modern monetary policy analysis, but further progress in these areas would serve the Fund well in its engagement with LIC central banks. Finally, a number of central bankers expressed acute concern about understanding and managing the implications for central bank research and operations, on the one hand, and financial stability, on the other, of the rapid growth of artificial intelligence (AI).

b. Fiscal policy: Debt-investment-growth (DIG) models

The debt-investment-growth (DIG) family of models, starting with Buffie *et al.* (2012), provided a consistent analytical framework that could be empirically substantiated for evaluating non-concessional borrowing by LICs to enhance growth and maintain debt sustainability. This effort was a response to the Bank/Fund non-concessional borrowing policy (NCBP) at the time (reviewed in World Bank 2015) that sought to avoid the “free-rider” problem associated with debt relief where creditors take advantage of the space created by the lower debt burden to saddle countries with excessive, non-concessional debt. The policy prevented LICs from borrowing at market interest rates save under certain exceptional circumstances. In light of their vast infrastructure needs and the interest among creditors, notably China, to finance this infrastructure, many LICs found the policy too restrictive. The DIG model showed that these countries could take on non-concessional debt as long as it was used to finance public investment projects that were productive and implemented efficiently. In such situations, non-concessional foreign borrowing would actually be superior to domestic borrowing, in terms of the resulting paths of domestic consumption and investment, under the assumption that the country maintained its inflation anchor. In short, countries borrowing non-concessionally could experience higher growth rates while preserving debt sustainability – consistent with the goals of the MRLIC project.

The DIG model was also a response to the fact that, for low-income countries, the debt-growth nexus is analyzed outside the IMF-WB Debt Sustainability Framework (LIC-DSF). The link between debt and growth is not discussed in the debt sustainability analysis (DSA), which relies on inputs from the countries’ macroeconomic framework. It was precisely the link between borrowing and growth, through the public investment channel, that the DIG model captured. Thus, it was a useful complement to the LIC-DSF. The DIG model was consistent with the state of the art in the literature at the time, notably assuming optimizing behavior and rational

expectations on the part of private agents, while incorporating certain features of low-income countries such as a large informal sector.

MRLIC researchers, in collaboration with Fund country teams, applied the DIG and DIGNAR models to over 65 countries, providing insights for program and surveillance work through qualitative and quantitative analysis of the macroeconomic effects of scaling up public investment. As the cases of Ghana and Senegal illustrate, the models showed a path to increased borrowing, higher growth and sustainable debt. They opened up the possibility of greater flexibility in non-concessional borrowing by low-income countries than was the case with the erstwhile NCBP. As such, they provided a forum for a richer dialogue between the Fund and country authorities. They were not intended to, nor did they, replace the LIC-DSF that guides the IMF's recommendations on the appropriate trajectory of fiscal balances for debt sustainability. One reason for this is that the LIC-DSF incorporates all the details in a country's debt profile—interest rates and maturities of each creditor—whereas the DIG model collapses this information into a single interest rate. Insofar as the LIC-DSF is a platform for negotiations between creditors and debtors, this detail is necessary. Another reason may be that the DIG models, even if they are the simplest model to capture the macroeconomic features of low-income countries, are still quite complex and not conducive to universal application. Nevertheless, a number of LIC-DSF reviews incorporated spreadsheet-based tools that incorporated key insights from the DIG research, including an investment-growth model with public investment inefficiencies and a model of fiscal adjustment and growth.

While the DIG models have seen widespread use in IMF country work, it is curious that they have not been systematically adopted by the Fund's Fiscal Affairs Department (FAD), which is the department most closely associated with public investment and debt issues. Since FAD deals with all countries, and both high-income (Greece) and emerging market (Turkey, Argentina) countries were facing serious fiscal issues at the time when the MRLIC project was initiated, it is understandable that they chose not to focus on low-income countries, especially since there was a project (MRLIC) dedicated to these countries. This was the rationale for the MRLIC project in the first place. But there may have been another reason, articulated by a former senior FAD manager: "The main message [of the DIG models] is that 'If you choose productive investments and implement them effectively, then you can borrow non-concessionally, accelerate growth and maintain sustainable debt.' We already knew that." While the DIG models provided a consistent framework and quantitative analysis of the link between debt, investment and growth, the real issue, in this person's view, was how to ensure that the investments financed by borrowing are productive and that their implementation is efficient. Although they emphasized public investment efficiency and the rate of return to capital, DIG models did not contribute to answering the question of how to achieve this efficiency. There was other work at the Fund that focused on public investment management (for example, Dabla-Norris et al. [2011](#)), so it was not necessary for the MRLIC project to take this on. Yet, there may be scope for future work that combines these two streams of research.

More generally, the MRLIC project was designed to produce research that would ultimately help low-income countries accelerate growth and maintain sustainable debt. In 2012, with GDP

growth rates at an all-time high (thanks partly to the commodity super-cycle) and world interest rates near zero, this seemed feasible. The DIG family of models showed that these goals could be achieved by borrowing for public investment and converting that investment into faster growth. They were applied to a large number of low-income countries, especially in Africa. Today, these same countries are experiencing low growth in per-capita income and serious debt problems. In [Africa](#), all the LICs are either in debt restructuring or at high- or moderate risk of debt distress; no country is at low risk of debt distress.

To be sure, a host of factors contributed to these countries' debt situation that were unrelated to the MRLIC project—global shocks such as the Covid-19 pandemic, the Russo-Ukraine war, and climate change. But domestic politics also played a role. As one former LIC central banker put it, “certain loans are decided at the [presidency] and I can't do anything about them.” Another country is known for violating its fiscal targets every election year. When we asked MRLIC researchers why the favorable scenarios derived in their DIG model applications did not materialize, each of them replied, “political economy.” These political shocks are not tail events; they occur with disturbing frequency in low-income countries (Gaspar et al. 2017). DIG models are not forecasting tools. But the DIG model applications could have benefited from more explicit incorporation of these political risks in the derivation of the borrowing and investment trajectories, possibly resulting in better outcomes for low-income countries.

In light of this review, it is worth considering whether the MRLIC project in general and the DIG models in particular could be improved in a way that could reduce the chances of disappointing outcomes in the future. We see at least three areas:

Data. In some of the countries facing debt distress, new data revealed that their initial debt levels were higher than previously thought. The classic case is [Mozambique](#), where about \$2 billion (12% of GDP) was found to be secretly borrowed and misappropriated. More recently, [Senegal's](#) debt-to-GDP ratio was revised from 74 percent to 111 percent when audits revealed debts hidden by the previous administration. Such episodes can undermine a particular adjustment trajectory if it was based on erroneous data. Going forward, the MRLIC project could provide a global public good by developing methods to increase data transparency and accuracy, especially on debt-related statistics. Integrating the DIG+ model with data on public capital stocks may also represent an important opportunity. In Buffie et al. (2012), this integration is avoided by assuming that the economy, including the public capital stock, is in a steady state in the baseline. If this assumption is incorrect, the entire borrowing and investment schedule derived from the model's application could be misleading. For instance, if the public capital stock is actually deteriorating due to inadequate recurrent spending (e.g., Adam and Bevan 2015), then the Buffie et al. (2012) calibration underestimates public infrastructure capital in the baseline and, correspondingly, over-estimates the marginal product of public capital and therefore the productivity of public investment.

Risk. Most of the reasons why the debt-investment-growth trajectories derived by the DIG models did not materialize could be classified as unanticipated shocks, be they global calamities such as Covid-19 or local ones such as Ghana's decision to increase civil-servant

salaries while undertaking fiscal consolidation. The DIG models, with their perfect-foresight assumptions, do not allow for such shocks. In contrast to dynamic, stochastic general equilibrium (DSGE) models, which explicitly incorporate uncertainty (see, for example, Devarajan et al. [2017](#)), the richness and nonlinear features of the DIG model make such an extension challenging. Combining stochastic and nonlinear analysis requires significant tradeoffs between operational feasibility and analytical sophistication (not to mention computational feasibility). Instead, the MRLIC researchers chose to address uncertainty by introducing a commodity price shock a few years into an optimal trajectory, with agents then revising their trajectories to the fully anticipated new path of commodity prices. While this may be the only feasible way of incorporating shocks while preserving the nonlinear specification of the DIG model, it limits the use of the DIG model in the current policy environment. Since 2015, the global environment (commodity prices, interest rates, inflation, growth) has become increasingly volatile, and this is likely to continue in the future.

Relatedly, the outlook for the global economy was becoming increasingly pessimistic after 2015, as reflected in the Fund's semi-annual World Economic Outlook (WEO), which included alternative scenarios to its base case. Yet, these scenarios do not seem to have been incorporated in the DIG models, possibly for the reasons mentioned above. They were also not incorporated in the LIC-DSAs because the latter incorporate uncertainty by looking at historical behavior of commodity prices and considering one standard deviation from the mean. This approach may have missed the forward-looking scenarios in the WEO. The MRLIC project could usefully undertake a retrospective assessment of the LIC-DSF and DIG models' performance, with a view towards revising their approach to risk in future applications.

Optimism bias? While the DIG models, based on rigorous analysis, promoted greater flexibility in non-concessional borrowing, there is a chance that they provided "too much" flexibility. Several countries to which the DIG models were applied clearly deviated from the model's trajectories in their borrowing and investment decisions. In addition to the political-economy reasons mentioned above, it is worth asking whether the DIG models contributed to the "[optimism bias](#)" that has been documented in Fund programs more generally. On one hand, the work of former IMF chief economist Olivier Blanchard and colleagues showing that multipliers in advanced economies were greater than previously estimated (and hence fiscal austerity should be less severe) may have influenced the work on low-income countries. On the other hand, there were papers at the Fund showing that the multipliers in LICs were considerably smaller and an MRLIC paper by Warner ([2014](#)), cautioned against public investment booms in low-income countries. A thorough empirical retrospective of DIG-model applications and their relation to the widespread emergence of debt distress is a high priority in guiding the further use of these models.

Finally, is there scope to use the DIG family of models to guide the fiscal consolidation that is currently taking place in almost every country? Although the models were built to analyze fiscal expansion for public investment and growth, there would be some insights by running the models in reverse. More generally, the MRLIC project may wish to take up debt restructuring

and fiscal consolidation as a theme. This question is of course central to the Fund's mandate, and the DIG models could be relevant.

c. Diversification, inequality, gender, and climate change

Beyond traditional monetary and fiscal policy, the MRLIC project addressed four topics that are critical to growth and poverty reduction in low-income countries. First, the MRLIC project sponsored work on diversification in low-income countries, a topic that is high on almost every policymaker's agenda. Although the subject is also part of the World Bank's work, it was important for the Fund to take it up for two reasons. First, diversification is central to economic growth, employment, and poverty reduction, the ultimate goals of the MRLIC project. Secondly, Fund staff had been doing work on diversification in emerging market economies; this was not extended to low-income countries because there was very little systematic data. Hence, the first contribution of the MRLIC project in this area was the development of a [database](#) on diversification in low-income countries. This tool has led to multiple applications in low-income countries and a Board paper on diversification. More importantly, the publication of this database is a global public good, one that will enable research and policy work on this topic by researchers inside and outside the Fund, and especially in low-income countries. It is critical that this database be maintained and refreshed on a regular basis to reap the gains from this investment.

Secondly, the DIG models have been extended and adapted to address inequality and gender by introducing heterogeneous agents to the basic model. These extensions are not only useful; they are essential. As we have already discussed, many of the borrowing-cum-investment trajectories from the DIG model were subverted because of political economy. At a very simple level, the losers from a reform program (the recipients of subsidies, for instance) were able to block the changes and undermine the whole investment path. The extension to heterogeneous agents enables the model to anticipate some of the winners and losers of a particular package and possibly put in place compensating measures to prevent the program from going off track. Since inequality and gender are at the top of the minds of policymakers, their incorporation in dynamic macro models also brings the Fund's analytical work closer to the concerns of the public.

At the same time, there appear to be mixed views on the future of the work on inequality and gender at the Fund. On one hand, several people think that the gender dimension was introduced and encouraged by the former Managing Director, Christine Lagarde, and did not fit with the Fund's core expertise. Others say that the inequality and gender work has receded and may decline further as a major shareholder is encouraging the Fund to stick to its core mandate. On the other hand, the Fund's gender mainstreaming strategy ([IMF 2022](#)) clearly states that the IMF will help its member countries address gender disparities as part of its core functions, especially when these issues are macro-critical.

Our view is closer to the mainstreaming strategy. Gender and inequality, since they are closely linked with the political economy of reform, are central to the macroeconomics of investment and growth and, therefore, central to the Fund's core mandate.

Third, the extension of the DIG model to address climate change adaptation and mitigation issues is hugely important and should not be diminished. The relationship between climate shocks, the financial sector and the macroeconomy is becoming increasingly critical, and the DIGNAD model has proved to be very useful in this area, especially to small island economies subject to massive weather shocks. The MRLIC project is supporting applications of the model as part of the Fund's new instrument, the Resilience and Sustainability Trust. Inasmuch as demand for this work from low-income countries is growing, the MRLIC project should continue to support work on climate change. In doing so, it is worth asking whether the DIGNAD platform, since it is derived from a model designed for a different purpose, is appropriate for helping low-income countries deal with climate risks. Does the fact that the original framework was focused on financing infrastructure detract from managing climate shocks? The previous point about the DIG framework having limited scope for incorporating uncertainty may apply more forcefully in the context of climate change and the extreme uncertainty around its effects.

7. Going forward

Our overall assessment is that the MRLIC project exceeded all expectations for a project of this type and scale. The sheer volume of research on macroeconomics of low-income countries it produced (192 working papers) – in the wake of declining shares of macroeconomic content in development journals and limited presence of low-income countries in macroeconomics journals—is testimony to this accomplishment. That this research was used in 122 IMF country reports and several Board papers demonstrates that it had an impact on IMF programs and policy. The project's signature themes, more flexible monetary policy frameworks and dynamically consistent debt-investment-growth strategies, are now routinely applied in most, if not all, low-income countries. Finally, the project's recent extensions to incorporate diversification, gender, inequality and climate change address some of the most pressing, macro-critical issues of the day.

In addition to producing a large volume of high-quality research, the MRLIC project enhanced the profile of LIC research at the Fund. Before the project, LIC research was constrained by the lack of data and the temptation to work on emerging market or advanced economies, for whom there were well-established frameworks for analysis. By providing rigorous and empirically tractable analytical frameworks and datasets on topics like diversification and inflation targeting, the MRLIC project relaxed those constraints. By actively disseminating the research through training courses, toolkits, and dialogue with authorities in LIC countries, the project has enabled a possible virtuous cycle where the demand for and the supply of LIC research will build on each other.

Despite its relatively large scale, at \$26 million over 12 years, the project appears to have delivered value for money. The IMF's estimate of the cost being about \$72,000 per working paper compares very favorably with back-of-the-envelope estimates in other international research organizations. The scale enabled the Fund to hire contractual staff, some of whom later joined the regular staff, and all of whom engaged with country teams and authorities in disseminating the research. In short, the project made a qualitative difference to the Fund's work in low-income countries.

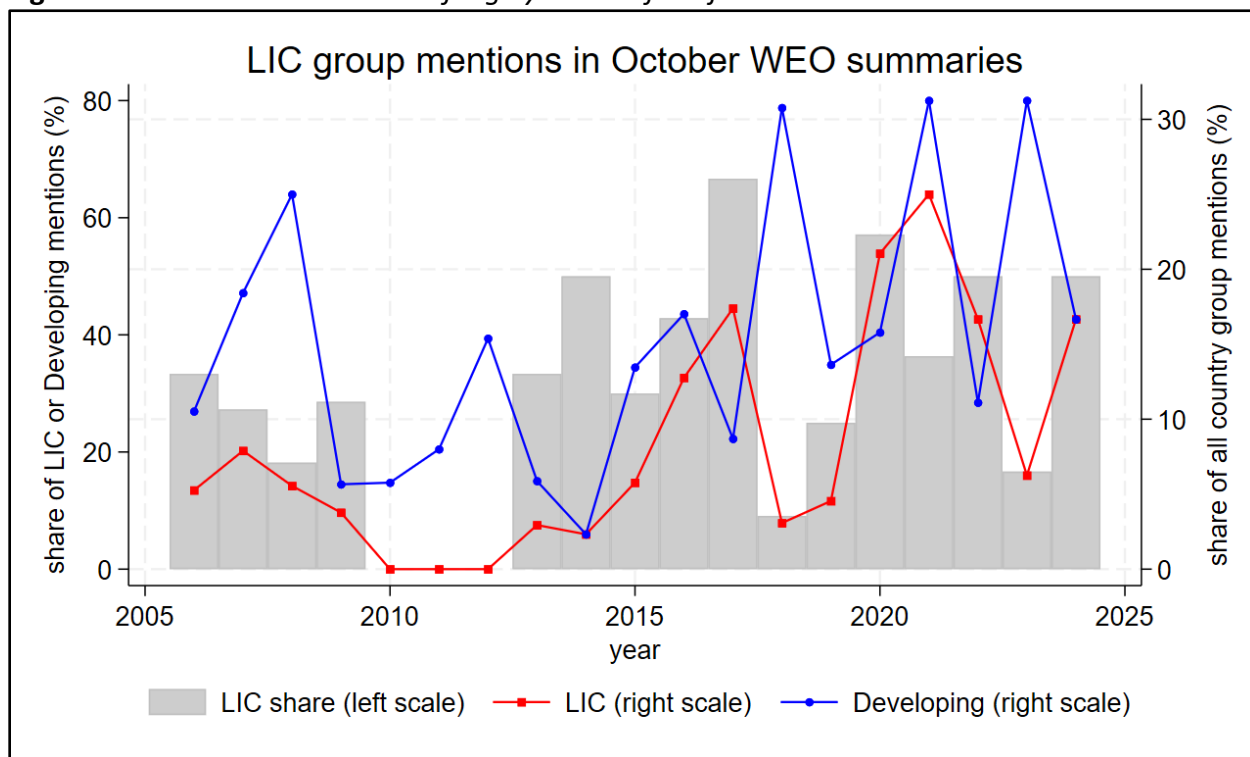
It should be noted that the strategic leadership provided by the project's founding co-directors, Andrew Berg and Catherine Patillo, as well as the institutional mechanisms created to safeguard the project's continuity beyond its inaugural leadership, not only ensured that the project addressed some of the most important issues facing low-income countries but paved the way for rigorous, empirically based and policy-relevant research that the project continues to deliver to this day.

The collaboration between SPR and RES also helped the relatively seamless translation of research to policy. That the project is now housed in two divisions within the research department may enable greater collaboration with other departments such as fiscal affairs (FAD) and monetary and capital markets (MCM), without diminishing the long-standing RES-SPR collaboration. For instance, the joint project between RES and FAD to estimate fiscal multipliers using AI tools for about 24 LICs would lead to a new database and tools for country teams as well as a Staff Guidance Note in the future.

As impressive as these achievements are, the question of their sustainability at the Fund remains open in some important respects. The Fund will continue to respond vigorously to the macroeconomic needs of LICs, as it did during the COVID crisis and is continuing to do in its engagement with LIC governments on debt restructuring and fiscal consolidation. This programmatic involvement may drive continued research and capacity building directly relevant to LICs. References to LICs in the Fund's flagship publication, the World Economic Outlook, have been increasing over the past two decades, as shown in [Figure 4](#); and, as we mentioned earlier¹¹, for the past decade the WEO data tables have included aggregates for a low-income LIC group that comprises most of the PRGT-eligible countries. Our interviews uncovered additional evidence of growing institutionalization of attention to LICs, including the recently-instituted policy that, to be promoted to management level (A15), staff in functional departments must have worked in a low-income country or FCS. Nevertheless, LICs remain largely below the radar of global financial stability, and in that sense will continue to remain hostage, in their claims on senior-management attention, to developments in the emerging-market and advanced countries. In the inevitable competition for research resources, LIC-related agendas will continue to face daunting challenges both within and outside the Fund. On balance, we are concerned that progress on LIC research may not be sustained in the absence of additional funding from external partners.

¹¹ See footnote 3 in Section 2.

Figure 4 *Macro and LIC content of highly-ranked field journals*



Notes: The figure is based on a text analysis of the Foreword and Executive Summary of the October WEO reports from 2006 through 2024. Excluding any charts or diagrams, we counted all mentions of country groups in the text of these sections (e.g., ‘advanced countries’, ‘emerging market economies’, ‘developing countries’, ‘euro zone’, ‘Middle East’, etc). The ‘LIC’ category includes all mentions of ‘low-income countries’ or largely similar groups like ‘poor countries’ or ‘sub-Saharan Africa’. The ‘developing’ category includes all group mentions that explicitly include the word ‘developing’, like ‘emerging market and developing countries’ and ‘developing economies’.

As to what the project might address in the future, there are many important issues such as artificial intelligence and climate change that require more work. But these are issues that cut across all countries. For low-income countries, the highest priority should be the current economic crisis facing them. Unlike the time of the project’s inception in 2012, low-income countries today are experiencing low growth and high rates of debt distress. The analytical frameworks developed by the MRLIC project could usefully be adapted to help LICs deal with this situation. For instance, the DIG+ work could be applied to the fiscal consolidation and debt restructuring that usually follow these circumstances. Similarly, the monetary frameworks could look at targeting inflation and managing exchange rates under balance-of-payments pressure.

In addition, the next phase of the MRLIC project could address some of the gaps we identified in the previous phase. The three most important areas are: (i) the treatment of risk in the DIG+ family of models, including in the LIC-DSA, especially as we are entering an era of “exceptionally high uncertainty” (Georgieva 2025); (ii) the political economy of fiscal policy, which could be incorporated explicitly in the models to reduce the risk that the proposed trajectory is derailed

by political considerations; and (iii) data transparency, particularly on debt. Too many programs are off-track because the initial level of debt was underestimated.

Taken together, these themes constitute a rich agenda for the next phase of what is unquestionably a highly successful project.

Acknowledgements

We are grateful to Andy Hinsley and Justin Kanzah at the FCDO, and to Petia Topalova and the MRLIC team at the IMF, for their generous support throughout the review. We conducted confidential interviews with a large number of current and former IMF staff and senior management, senior policymakers in low-income countries, current and former managers of policy consulting, capacity-building, and research institutions in low-income countries, and academic researchers, and we thank each of these individuals for sharing their insights. Hites Ahir (IMF) provided expert and vital research assistance, and we thank him for his collaboration throughout. We are grateful to Gladys Mitchell (IMF library) for citations research, and to Jing DiBerardino (MF) for logistical support during the review. Any errors of fact or interpretation are our own responsibility.

References

- Angrist, Joshua D., Pierre Azoulay, Glenn Ellison, Ryan Hill, and Susan Feng Lu. 2017. "Economic Research Evolves: Fields and Styles." *American Economic Review* 107 (5): 293–97.
<https://doi.org/10.1257/aer.p20171017>
- Boughton, James M., and Domenico Lombardi. 2009. "The Role of the IMF in Low-Income Countries," in Boughton, J. and D. Lombardi, eds. *Finance, Development and the IMF*, Oxford: Oxford University Press.
- Buffie, Edward F., Andrew Berg, Catherine Pattillo, Rafael Portillo, and Luis-Felipe Zanna. 2012. "Public Investment, Growth, and Debt Sustainability: Putting Together the Pieces." *IMF Working Paper* WP/12/144. Washington, DC: International Monetary Fund.
<https://doi.org/10.5089/9781475503521.001>
- Chrimes, Tommy, Bram Gootjes, M. Ayhan Kose, and Collette Wheeler. 2024. *The Great Reversal: Prospects, Risks, and Policies in International Development Association (IDA) Countries*. Washington, DC: World Bank. doi: <https://doi.org/10.1596/978-1-4648-2145-5>
- Dabla-Norris, Era, Jim Brumby, Annette Kyobe, Zac Mills, and Chris Papageorgiou. 2011. "Investing in Public Investment: An Index of Public Investment Efficiency." *IMF Working Paper* WP/11/37. Washington, DC: International Monetary Fund.
<https://doi.org/10.5089/9781455217890.001>
- Das, Jishnu, Quy-Toan Do, Karen Shaines, and Sowmya Srinivasan. 2013. "U.S. and Them: The Geography of Academic Research." *Journal of Development Economics*, vol. 105, pp. 112-130, November.
- Devarajan, Shantayanan, Yazid Dissou, Delfin S. Go, Sherman Robinson. 2017. "Budget Rules and Resource Booms and Busts: A Dynamic Stochastic General Equilibrium Analysis," *The World Bank Economic Review*, Volume 31, Issue 1, February, Pages 71–96. <https://doi.org/10.1093/wber/lhv059>
- Doemeland, Doerte and James Trevino. 2014. "Which World Bank Reports Are Widely Read?" Policy Research Working Paper No. WPS 6851. Washington, D.C. World Bank Group.
- Foreign, Commonwealth and Development Office. 2025. "Statistics on International Development: provisional UK ODA spend 2024" Updated 11 April.
<https://www.gov.uk/government/statistics/statistics-on-international-development-provisional-uk-oda-spend-2024/statistics-on-international-development-provisional-uk-oda-spend-2024>

- Furceri, Davide, Swarnali A. Hannan, Jonathan D. Ostry, and Andrew K. Rose. 2019. "Macroeconomic Consequences of Tariffs." *IMF Working Paper WP/19/9*. Washington, DC: International Monetary Fund. <https://doi.org/10.5089/9781484393544.001>
- Galvez, Ricardo H., and Sebastian Galiani. 2017. "The Time Profile of Research Impact in the Social Sciences." *Research Evaluation* 26 (4): 298–306. <https://doi.org/10.1093/reseval/rvx015>.
- Gaspar, Vitor, Sanjeev Gupta and Carlos Mulas-Granados. 2017. *Fiscal Politics*. International Monetary Fund, Washington, D.C.
- Georgieva, Kristalina. 2025. "Opportunity in a Time of Change," Annual Meetings Curtain-Raiser Speech at the Milken Institute, October 8.
- Gurara, Daniel, Giovanni Melina and Luis-Felipe Zanna. 2019. "Some Policy Lessons from Country Applications of the DIG and DIGNAR Models. International Monetary Fund Working Paper No. 2019/062.
- International Monetary Fund (IMF). 2012. *Eligibility to Use the Fund's Facilities for Concessional Financing*. January.
- International Monetary Fund (IMF). 2012. *IMF Annual Report 2012: Working Together to Support Global Recovery*. Washington, DC: IMF. <https://www.imf.org/external/pubs/ft/ar/2012/eng/>
- International Monetary Fund (IMF). 2014. "Strengthening Monetary Policy Frameworks in Low-Income Countries." *IMF Policy Paper*. Washington, DC: IMF. <https://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/Strengthening-Monetary-Policy-Frameworks-in-Low-Income-Countries-PP4879>
- International Monetary Fund (IMF). 2015. "Evolving Monetary Policy Frameworks in Low-Income and Other Developing Countries." *IMF Policy Paper*. Washington, DC: IMF. <https://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/Evolving-Monetary-Policy-Frameworks-in-Low-Income-and-Other-Developing-Countries-PP4927>
- International Monetary Fund (IMF). 2021. *Annual Report of the IMF/FCDO Macroeconomic Research in Low-Income Countries Project*. Washington, DC: IMF. <https://www.imf.org/en/Publications>
- International Monetary Fund. 2021. *World Economic Outlook: Managing Divergent Recoveries*, Chapter 4, Washington, D.C.: IMF <https://www.imf.org/-/media/files/publications/weo/2021/april/english/text.pdf>

International Monetary Fund. 2024. *2024 Review of the Poverty Reduction and Growth Trust Facilities and Financing – Reform Proposals*. Washington, DC: IMF <https://www.imf.org/-/media/files/publications/pp/2024/english/ppea2024047.pdf>

Ismail, Kareem, Roberto Perrelli and Jessie Yang. 2020. “Optimism Bias in Growth Forecasts: The Role of Planned Policy Adjustments,” IMF Working Paper No. 2020/229, Washington, D.C. IMF.

Issoufou, Salifou, Edward Buffie, Mouhamadou Bamba Diop and Kaliodou Thiaw. 2014. “Efficient Energy Investment and Fiscal Adjustment in Senegal,” IMF Working Paper No. 2014/044. Washington, DC. IMF.

Morazumi, Atsuyoshi, Hiroaki Miyamoto, and Takaaki Nakayama. 2020. “Inflation Targeting and Inflation Dynamics in Low-Income Countries.” *Journal of Macroeconomics* 66 (C): 103–213. <https://doi.org/10.1016/j.jmacro.2020.103213>

Rodrik, Dani. 1996. “Understanding Economic Policy Reform.” *Journal of Economic Literature* 34 (1): 9–41.

Warner, Andrew M. 2014. “Public Investment as an Engine of Growth.” *IMF Working Paper* WP/14/148. Washington, DC: International Monetary Fund. <https://doi.org/10.5089/9781498341894.001>

World Bank. 2015. “Review of the Debt Sustainability Framework for Low-Income Countries.” *Policy Paper*. Washington, DC: World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/714831468338943625/review-of-the-debt-sustainability-framework-for-low-income-countries>

Appendix

Content analysis of publication series

Our content analysis is based on the abstracts of IMF Working Papers, World Bank Policy Research Working Papers, and articles in selected economic journals that were published between 2000 and 2024. We obtained metadata on the IMF and World Bank working papers directly from these institutions, and on the academic journals from EBSCO and/or ProQuest. We restricted our text analysis to abstracts because JEL codes were not uniformly available for the publications we examined, and while most publications had some form of subject listing, these differed substantially enough to distort comparisons across publications.

Before processing the metadata, we removed all duplicate listings, all listings without abstracts, and all listings that did not constitute free-standing articles (e.g., Comments, Replies, Editorials, and Introductions to special issues). Table A1 shows the publication series we examined and the number of abstracts in our final dataset.

Table A1. Publication series examined

Category	Publication series	Number of abstracts reviewed, 2000-2024
IMF and World Bank Working Papers	IMF Working Papers	8,503
	World Bank Policy Research Working Papers	10,515
Development journals	Journal of Development Economics	2,884
	Economic Development and Cultural Change	729
	World Development	4,755
	World Bank Economic Review	910
	Journal of African Economies*	644
Macro journals	Journal of Monetary Economics	1,795
	Journal of Macroeconomics	1,501
	Review of Economic Dynamics	1,137
	Journal of International Money and Finance	2,270

*AERC Supplemental issues excluded.

Analyzing LIC content

To classify documents as containing LIC content, we searched for any occurrences of three types of text within each document’s abstract: LIC-specific country names and their alternative forms, phrases describing groups of LIC countries, and LIC-related keywords. For country names, we included all countries that were PRGT-eligible in 1995, searching for the country’s name as well as for its possessive, adjectival, or demonymic forms. For references to groups of low-income countries, we implemented a flexible base-and-target search for phrases of up to 5 words, like “low-income and emerging-market countries.” For keywords, we added specific LIC-related keywords that would not otherwise be captured. Table A2 provides details, and gives examples of the text they are designed to capture.

Table A2. *Sub-categories in LIC-content search of Abstracts*

Type of text	Occurrences to be counted	Examples of occurrences
Low-income country names	For all countries that were IDA-eligible in 1995: All occurrences of the country’s name or the possessive, adjectival, or demonymic form of that name.	“income in kenya”, “kenya’s economy”, “kenyan reforms”, “kenyans migrated”
Phrases referring to low-income countries as a group	All within-a-sentence occurrences of the phrase “ <i>base word</i> + up to 3 other words + <i>target word</i> ”, where: <i>base words</i> = [poor, poorer, low income, low-income, developing, sub-saharan african] <i>target words</i> = [country, countries, region, regions, economy, economies, nation, nations, state, states]	“low income and emerging market economies”, “poor country”
Keywords	All occurrences of any element in the following list of keywords: <i>keywords</i> = [HIPC, MDRI, IDA, PRGT, LICs, LIDCs, LMICs, UMICs, Africa, Sub-Saharan Africa, SSA, Millennium Development Goals, MDGs]	Any verbatim keyword

Note: The search is not case-sensitive.

We classified an abstract as indicating LIC content if it had at least one occurrence within any of the categories in Table A2.

Analyzing macro content

To classify documents as containing macro content, we constructed a list of 205 macroeconomic terms, drawing terms selectively from the JEL list of macroeconomically-related subject codes and using our own judgment to expand the list. Table A3 below shows the topics we sought to span, and gives examples of macro-content terms we searched for under each topic. We counted terms as occurrences when they appeared in the document's abstract either verbatim or in specified variants that included plurals, noun/verb versions, and optional hyphens. Variants for the term 'macroeconomic', for example, included 'macro', 'macro-economic', 'macroeconomics', and 'macro-economics'. To count as an occurrence, a multi-word phrase ('structural transformation') had to occur within a sentence in the abstract rather than being split across two sentences.

Table A3. *Macro-content categories and some examples*

Category	Topic	Examples of macro-content terms
1	Macroeconomics	macroeconomics, aggregate demand, input-output, unemployment rate
	Business cycles	business cycle, procyclical, stabilization policy, DSGE
2	Monetary policy	monetary policy, central bank, inflation targeting, currency union
	Financial development	financial deepening, banking sector, macro-financial, macro-prudential,
3	Fiscal policy	fiscal policy, primary deficit, government spending, public infrastructure, fiscal rule
4	Open-economy macroeconomics	current account, capital flows, interest parity, cross-border spillovers
	Exchange rates	exchange rate, nominal appreciation, real appreciation, balance of payments crisis
	Debt sustainability	debt sustainability, sovereign default, IMF program
5	Economic growth	per-capita growth, productivity growth, growth accounting, capital accumulation, saving rate, endogenous growth
	Structural transformation	structural transformation, multi-sector, inter-sectoral migration, labor market dynamics

As in the LIC content analysis, we classified an abstract as indicating macro content if it contained at least one occurrence within any of the categories in Table A3.